

Two new *Pholcus* species from northern China (Araneae: Pholcidae)

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Abstract — Two new species of the genus *Pholcus* from China are reported: *Pholcus foliaceus* sp. nov. and *P. luya* sp. nov.; morphological and genital characters are described and illustrated.

Key words — spider, Taxonomy, Pholcidae, *Pholcus*, new species, China

Introduction

The daddy-long legs spider genus *Pholcus* Walckenaer 1805 is the largest genus in the family Pholcidae, with 295 species distributed around the world (Huber 2011, Li & Wang 2012, Platnick 2012, Yao & Li 2012). Huber (2011) divided *Pholcus* species into 29 operational species groups according to the result of cladistic analysis, and some *Pholcus* species have been transferred to other genera. In view of the above, 109 species which have been reported from China should belong to 10 species groups. These Chinese representatives of the genus *Pholcus* were treated recently by Zhang & Zhang (2000), Zhang et al. (2005, 2006), Zhang & Zhu (2009a, b), Chen et al. (2011), Peng & Zhang (2011a, b), Tong & Li (2009, 2010), Tong & Ji (2010) and Yao & Li (2012). The present paper will contribute to the knowledge of the genus *Pholcus* in China.

While examining *Pholcus* specimens collected in Shanxi and Liaoning provinces, two *Pholcus* species are found to be new to science and are assigned to *phungiformes* species group according to Huber (2011).

Materials and methods

All measurements are given in millimeters. Carapace length was measured from the anterior margin to the rear margin, excluding the clypeus. Total length is the sum of carapace and abdomen length, regardless of the petiolus. The measurements of leg I are as follows: total length (femur + patella + tibia + metatarsus + tarsus). The descriptions follow the style in Huber (2011). All specimens were preserved in 75% alcohol, examined, illustrated and measured under a Nikon SMZ1500 stereomicroscope equipped with an Abbe drawing device, and the photos were taken by Leica M205A stereomicroscope equipped with a DFC450 CCD. All specimens of the new species were deposited in the Museum of Hebei University (MHBU), Baoding, China.

Abbreviations used in the text: ALE=anterior lateral eye; AME=anterior median eye; AME-AME=distance between AMEs; PLE=posterior lateral eye; PME=posterior median eye; PME-ALE=distance between PME and ALE;

PME-PME=distance between PMEs; A=appendix; E=embolus; Ea=epigynal apophysis; Pp=pore plates; Tp=tip of the procurus; U=uncus.

Taxonomy

Pholcus Walckenaer 1805

Pholcus Walckenaer 1805: 80. Simon 1893: 470; Huber 2000: 77; Huber 2001: 108; Zhang & Zhu, 2009b: 4; Huber 2011: 125.

Type species: *Pholcus phalangioides* (Fuesslin 1775).

Pholcus foliaceus sp. nov. (Figs. 1–2)

Type material. Holotype ♂, Liaoning Province, Xinbin City, Nanzamu Town (41°43'N, 125°01'E), 22 August 2011, Chao Zhang leg.; paratypes: 1♂1♀, same data as holotype; 2♂, Liaoning Province, Qingyuan City, Hongtoushan Town (42°08'N, 124°54'E), 23 August 2011, Chao Zhang leg. (MHBU).

Diagnosis. Among the *phungiformes* species group, the species resembles *P. wangi* Yao & Li 2012 in having similar body habitus, uncus and the ventral view of epigynum, but can be distinguished by the different shapes of procurus, the dorsal view of epigynum, and the ventral apophysis of palpal trochanter with a distal hair.

Etymology. The specific name is derived from the Latin word “*foliaceus*”, meaning leaf-shaped and refers to the shape of the uncus.

Description. Male holotype. Body length 5.37; carapace length 1.55, width 1.55; abdomen length 3.82, width 1.82. Leg I 40.23 (10.47+0.64+10.28+16.84+2.00), tibia II 7.64, tibia III 5.19, tibia IV 6.83; tibia I L/d 66. Carapace shape as in Figs. 1A–B. Carapace short, broad, almost circular, ochre, with a pair of brown central marks broadly connected to ocular area; cephalic region raised; clypeus 0.65 high, slightly ochre. PME-PME 0.62, diameter PME 0.16, PME-ALE 0.02, AME-AME 0.08, diameter



Fig. 1. *Pholcus foliaceus* sp. nov. A, habitus of male holotype, dorsal view; B, same, lateral view; C, male chelicera, frontal view; D, epigynum, ventral view; E, same, dorsal view; F, left male palp, prolateral view; G, same, retrolateral view. Scales = 1.0 mm (A–B); 0.2 mm (C–E); 0.5 mm (F–G).

AME 0.09. Chelicerae with a pair of black apophyses distally, a pair of black apophyses proximal frontally and a pair of unsclerotized rounded apophyses proximolaterally (Figs. 1C, 2A). Labium and endites black. Sternum ochre, with few small marks. Femora, patellae and tibiae ochre, with dark rings, metatarsi and tarsi brown. Abdomen cylindrical, pale ochre, dorsum with numerous brown spots (Figs. 1A–B). Venter pale brown, without marks. Palpal trochanter ventral apophysis long, with a distal hair, tibia spindle-

shaped, with a small apophysis basally; bulb with two projections: leaf-shaped uncus and embolus with simple brush-shaped processes distally; procurus without small spines, with complicated tip and a long spine distally (Figs. 1F–G, 2B–D).

Female. In general similar to male. Body length 5.01; carapace length 1.46, width 1.55; abdomen length 3.55, width 2.00. Tibia I 7.19. AME–AME 0.05. Diameter AME 0.09, ALE 0.16, PME 0.12, PLE 0.13. Epigynum roughly

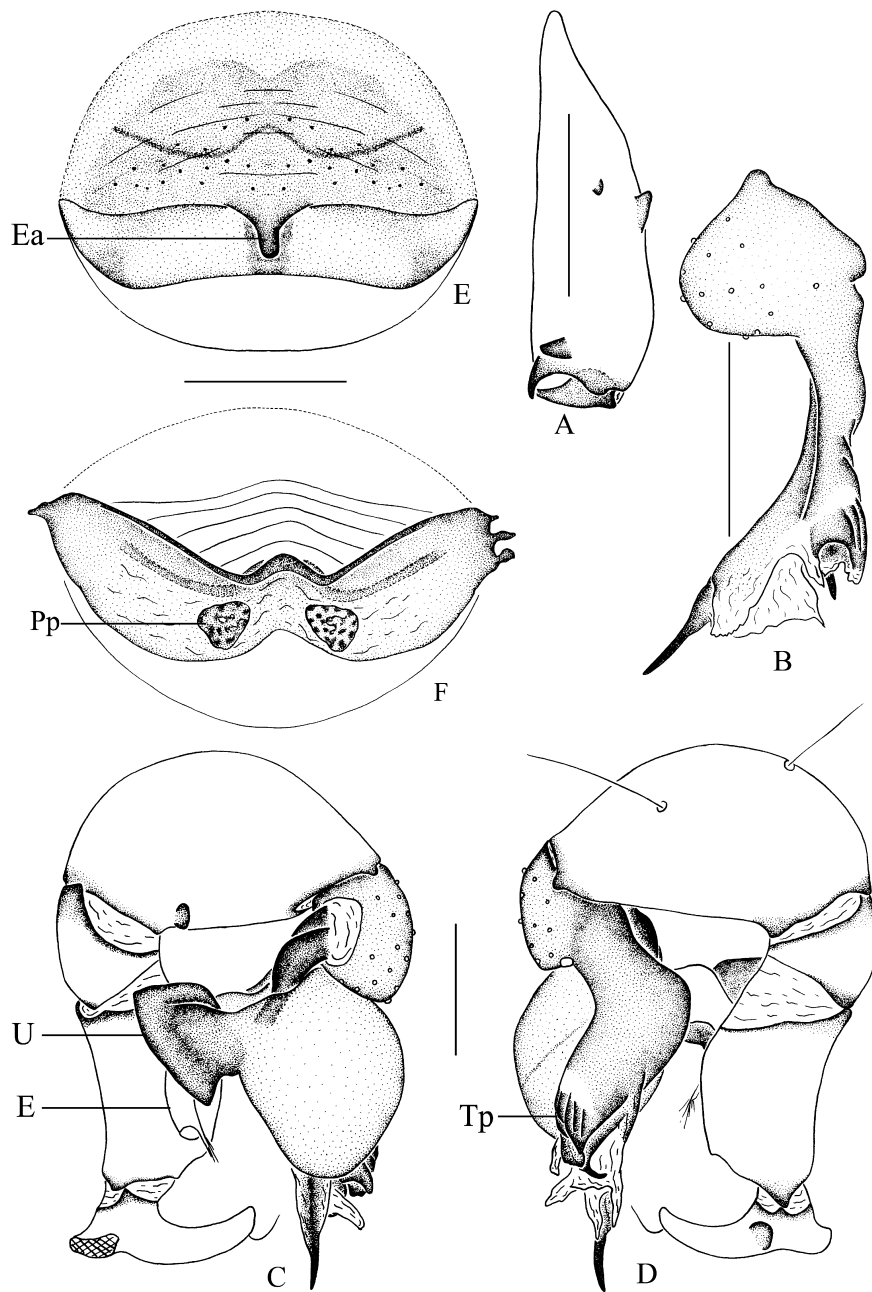


Fig. 2. *Pholcus foliaceus* sp. nov. A, male left chelicera, frontal view; B, procursus of left male palp, dorsal view; C, left male palp, prolateral view; D, same, retrolateral view; E, epigynum, ventral view; F, same, dorsal view. Scales=0.5 mm.

semicircular (Figs. 1D, 2E), with a nipple-shaped apophysis anteriorly; dorsal view as in Figs. 1E and 2F, with wavy sclerotized arch anteriorly, and a pair of oval pore plates.

Variation. Tibia I length in other three males: 10.11, 10.54, 10.37; body length in other three males: 5.22, 5.41, 5.67.

Distribution. Known only from two localities in Liaoning Province, China.

***Pholcus luya* sp. nov.**
(Figs. 3–4)

Type material. Holotype ♂, China: Shanxi Province, Ningwu County (39°00'N, 112°17'E), Mount Luya, 5 July 2011, Zhizhong Gao leg.; paratypes: 3♂11♀, same data as holotype (MHBV).

Diagnosis. The species probably belongs to Huber's *phungiformes* species group (2011). *P. luya* resembles *P. pennatus* Zhang, Zhu & Song 2005 in having a similar habitus and chelicerae, and in lacking an appendix, but can

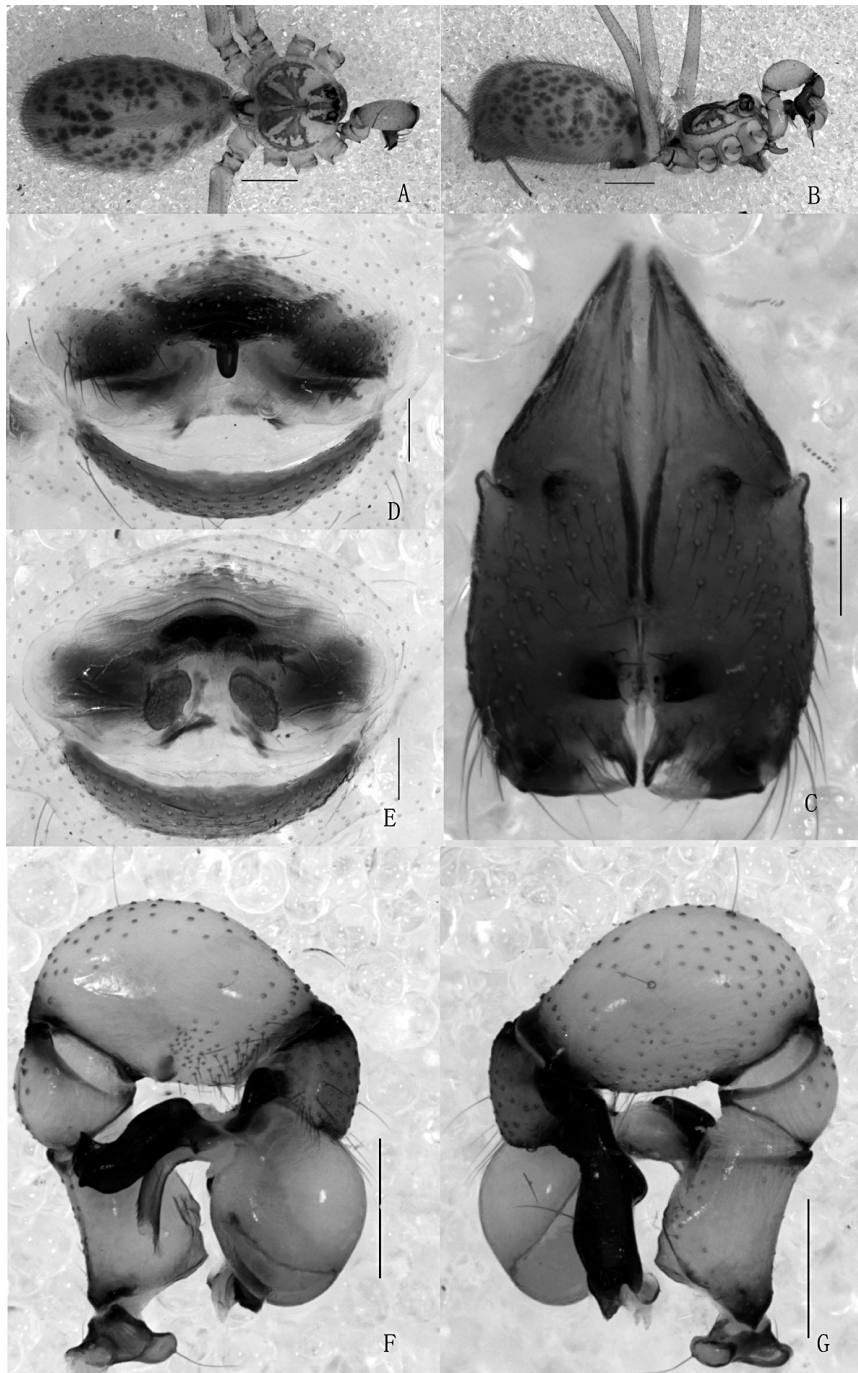


Fig. 3. *Pholcus luya* sp. nov. A, habitus of male holotype, dorsal view; B, same, lateral view; C, male chelicera, frontal view; D, epigynum, ventral view; E, same, dorsal view; F, left male palp, prolateral view; G, same, retrolateral view. Scales = 1.0 mm (A–B); 0.2 mm (C–E); 0.5 mm (F–G).

be distinguished by the different shape of the procurus, the long, broad uncus, and the presence of a long knob-shaped apophysis on the epigynum.

Etymology. The specific name is a noun in apposition, taken from the type locality.

Description. Male holotype. Body length 4.56; carapace length 1.46, width 1.63; abdomen length 3.19, width 1.46. Leg I 40.95 (10.83 + 0.64 + 10.55 + 16.65 + 2.28),

tibia II 7.37, tibia III 4.82, tibia IV 7.01; tibia I L/d 58. Carapace shape as in Figs. 3A–B. Carapace short, broad, almost circular, ochre, with broad brown marks extending to ocular area; cephalic region raised, with a brown stripe centrally; ocular area dark yellow; clypeus 0.64 high, ochre, without marks. PME–PME 0.65, diameter PME 0.18, PME–ALE 0.02, AME–AME 0.08, diameter AME 0.08. Chelicerae with a pair of black apophyses distally, a pair of

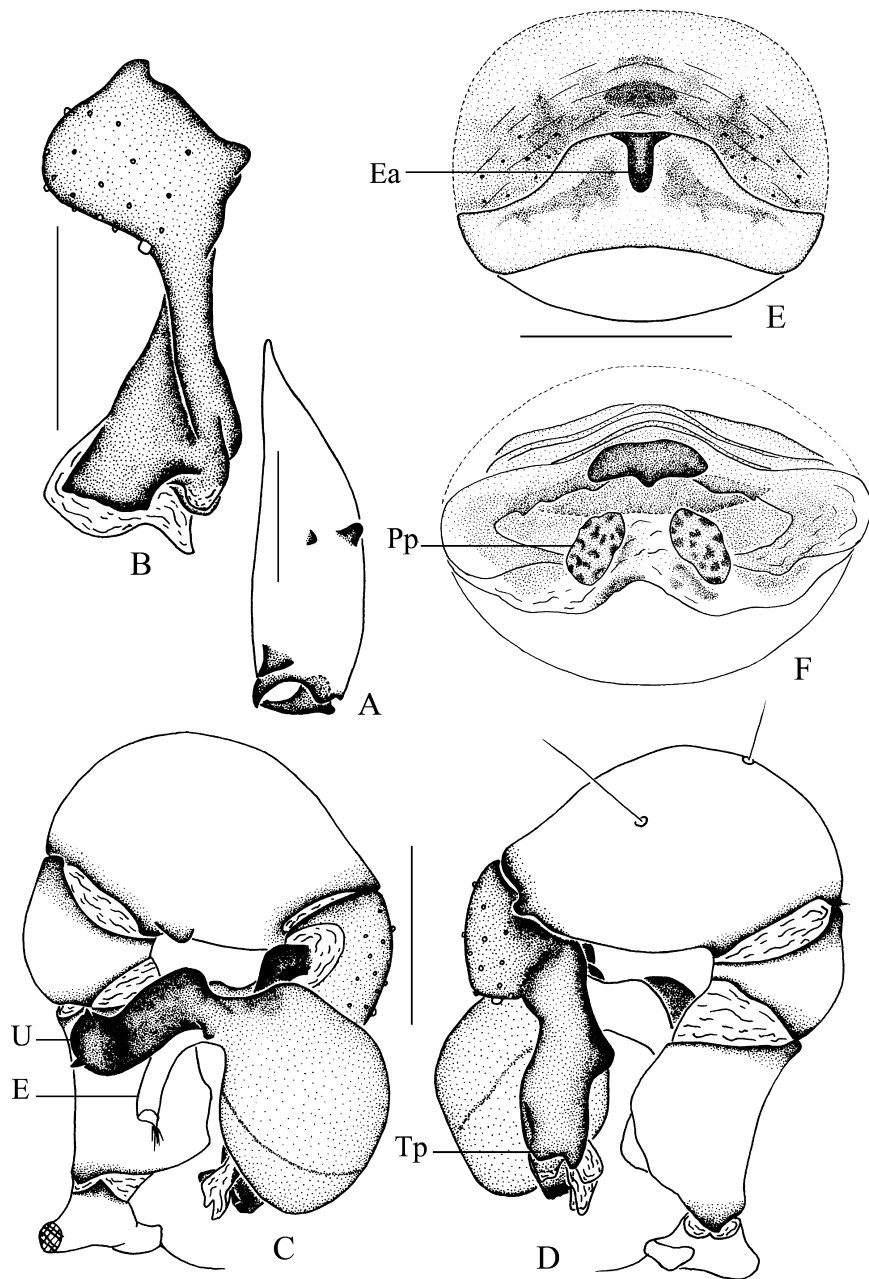


Fig. 4. *Pholcus luya* sp. nov. A, male left chelicera, frontal view; B, procurus of left male palp, dorsal view; C, left male palp, prolateral view; D, same, retrolateral view; E, epigynum, ventral view; F, same, dorsal view. Scales = 0.5 mm.

black apophyses proximal frontally and a pair of unsclerotized rounded apophyses proximolaterally (Figs. 3C, 4A). Sternum ochre, with large yellow marks. Femora, patellae and tibiae ochre, with dark rings, metatarsi and tarsi brown. Abdomen cylindrical, pale ochre, dorsum without spots (Figs. 3A–B). Venter pale brown, without marks. Palpal trochanter ventral apophysis short, with a long hair distally; tibia spindle-shaped, with a small apophysis basally. Palpal bulb with two projections: uncus broad, with two apophyses distally; embolus long, with simple brush-shaped processes distally. Procurus with complicated tip and without small spines (Figs. 3F–G, 4B–D).

Female. In general similar to male. Body length 5.01, carapace length 1.55, width 1.64; abdomen length 3.46, width 2.00. Tibia I 7.83. AME–AME 0.08. Diameter AME 0.07, ALE 0.14, PME 0.16, PLE 0.14. Epigynum simple (Figs. 3D, 4E), with a knob-shaped apophysis anteriorly and a pair of wavy dark markings medially; dorsal view as in Figs. 3E and 4F, with wavy sclerotized arch anteriorly and a pair of egg-shaped pore plates posteriorly.

Variation. Tibia I in other two males: 8.63, 9.37; body length in other two males: 3.90, 4.22. Tibia I in other 10 females: 7.66–8.54; body length in other 10 females: 4.93–6.09.

Distribution. Known only from Shanxi Province, China.

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